

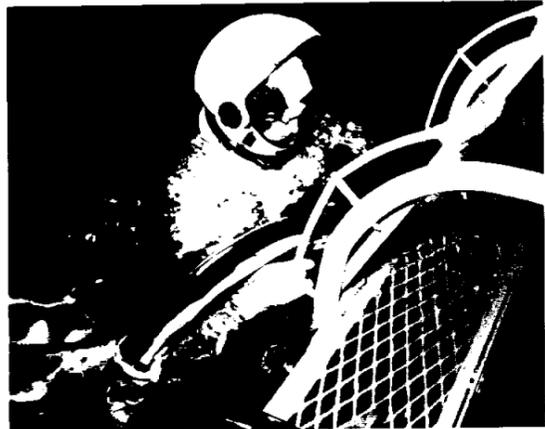
ROUNDUP

Lyndon B. Johnson
Space Center

NASA

January 26, 1979 Houston, Texas

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EVA IN WIF—From top right counterclockwise, candidate Anna Fisher suits up and submerges in Water Immersion Facility on site to run through extra vehicular activity at simulated zero gravity.



Crew Training countdown Pre-launch sims underway in FOD

The commitment is total when flying a spacecraft, so in preparation you have to have comprehensive, integrated training, said Jim Bilodeau, Chief of Crew Training.

With the first Shuttle launch set for Nov. 9 (see story below), the first crews began lesson sequences Jan. 8 in the Shuttle Mission Simulator in Building 5. "We are at the very bottom of an incredible amount of stuff they will have to learn," said Frank Hughes, head of Ascent/Entry Training.

Eight hours a day, from now until the launch, crews will sit in the cockpit of the fixed-based or the motion-based simulator going through flight procedures. At the SMS consoles, teams of instructors will feed some of the 4,500 malfunctions into each training run. It's the astronauts' job to respond to the malfunction, and carry out procedures that will keep the Orbiter functioning.

The lesson plan will take nine months to complete, "not counting real world problems cropping up," Hughes said. By the launch date, crews will be prepared for nearly any emergency.

The instructor teams work from scripts, sheets that look like working TV scripts. Instructions read, "Delay OMS 1 burn due to prevalve fail," "Gain switches to low during load relief," or "Late engine out." Instructors have spent the last six months learning how to throw surprise perturbations at training astronaut crews.

They now sit fixed before cathode ray tubes of the simulator computer, watching color graphic and numerical displays.

Each instructor has data to monitor: One is checking times of cryogenic pressure cycles, another eyes RCS parameters on the OMS system. They concentrate. Eyes always fixed on the screens, they wait for the precise moment to punch in an event.

All the while, a constant hum of the roomful of databanks drowns out nearby sounds. Occasionally, a loudspeaker voice announces incoming calls. The instructors listen over headphones to communications between the cockpit and other instructors.

Inside the simulator, two crewmen are running through a procedures verification—the 15 minutes prior to the de-orbit burn. An astronaut candidate looks on, absorbing everything. The simulated sound of RCS jets fires. "OK, OMS engine is on," says the pilot. "I'll burn the engine in MTVC," says the commander. He grabs the stick and the "current orbit" numbers decrease. With the exercise completed, instructors reset the computer, and the crew gets ready to perform the task again.

Next morning, another commander and pilot sit in the simulator. It is two minutes before launch. There is the sound of engines firing, and on the control panels the velocity and altitude are going up.

Continued on Page 4

Life and work on Orbiter takes practice

In the mid-deck, engineer John Rivers is fit-checking a map kit. A photo-lab photographer snaps documentary pictures. The 1-g trainer that the Super Guppy delivered last month is being set up in Building 9A for crew-training exercises that begin in March.

Time spent in the trainer will acquaint astronauts with the close quarters that come with life on Orbiter. The mid-deck serves as living room, dining area, kitchen, den, and bedroom. "all but the drivers' seat and workshops," said Bob Bond, 1-g trainer manager. He pointed out the drawers in the walls where suitcases go, and the hooks where astronauts will hang their sleeping bags at night.

Crewmembers will use the trainer for

"habitability" exercises: food preparation, where to stow instruments and wet trash. There are 15 lessons for each crew to go through, such as how to operate on-board cameras, emergency procedures when there is a loss of cabin pressure, and orbit entry scenarios.

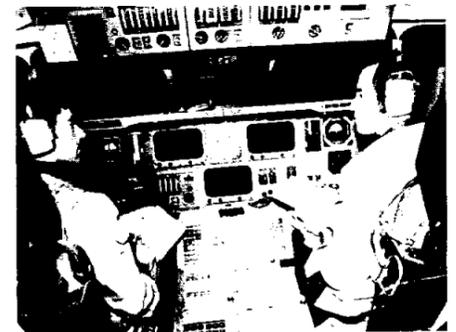
They will also use the trainer to practice going through an airlock to work in the payload bay. Crewmembers crawl in through an opening in the mid-deck and lock their feet into the ceiling. Then, reading the controls, which on Earth are upside down, they will close the hatch, depressurize the airlock, open the outside hatch, and float out to the payload bay.

After Orbital Flight Tests, living quar-

ters on the Shuttle will be more spacious. Extra water tanks that supplement the fuel cells will be removed along with the test pallet that contains data from the vehicle. This will open the room for a set of bunks, "a personalized cocoon you can slide into to read a book, play music," Bond said.

The Rockwell built trainer is high fidelity: It looks exactly like the Shuttle Orbiter that will fly. It is different from the Singer simulator in Building 5 in that there are no electrical tie-ins to computers; and it is unlike the Tech Services mockup in the same room which can be treated rougher.

The trainer will tie in with integrated simulations around the space center which begin in April.



PERTURBATIONS—Below, a team of instructors feed simulated malfunctions to John Young and Bob Crippen, the first Shuttle commander and pilot shown training

Frosch defines FY 1980 budget

Although the 1980 budget is tight, "we can make a good transition to the Shuttle era," NASA Administrator Robert Frosch said Saturday Jan. 20, at a background briefing concerning President Carter's budget message to be delivered the following Monday.

He also announced that Nov. 9 is the new launch date for the Space Shuttle, and "we have adjusted out operating schedule to that date."

Included in the budget is the \$185 million NASA requested to supplement the Space Shuttle and maintain the current schedule.

The budget, which still has to be approved by Congress, puts increased emphasis on exploration, applications, and advancements in aeronautics and space technology. It supports all ongoing programs, but there are no major new

Continued on Page 4

BUDGET SUMMARY (Thousands of Dollars)			
BUDGET PLAN	FY 1978	FY 1979	FY 1980
Research and development	3,011,600	3,477,200 ^a	3,602,500
Construction of facilities	162,340	147,500	157,600
Research and program management	889,506	941,469 ^b	964,900
TOTAL BUDGET PLAN	4,063,446	4,566,169	4,725,000
OUTLAYS	3,983,199	4,404,100	4,595,000

^aIncludes proposed supplemental of \$185,000,000 for the Space Shuttle.
^bIncludes proposed supplemental of \$30,969,000 for October 1978 pay increase.

Deng Xiaoping and Fang Yi, Vice Premiers of the State Council of the Peoples Republic of China, will tour the space center Friday, Feb. 2 with a 200 member touring party.

Over 30 employees dive into the Think Tank (Story on Page 4).





JUPITER ENCOUNTER—The top photograph of Jupiter and its four Galilean satellites was taken by Voyager 2 on Feb. 8, 1978, when the spacecraft was 271.5 million miles from the planet. Below it is a picture taken Dec. 10 which reveals more detail than any groundbased telescopic photos. It was taken by Voyager 1 from 52 million miles. Voyager 1 will take more than 15,000 pictures during its three month period of systematic observation.

On January 4, 1979, Voyager 1 was 373 million miles from Earth, 16 months after its launch.

Closest approach to the planet, as Voyager 1 flies past, will occur early on the morning of March 5, 1979. After flying past Jupiter and also studying the satellites Io, Europa, Ganymede, Callisto, and Amalthea, Voyager 1 will begin a 20-month cruise toward the ringed planet Saturn.

Voyager 1 was launched Sept. 5, 1977, more than two weeks after its companion, Voyager 2. Voyager 1 flew a faster trajectory and is now almost four months ahead of Voyager 2, which is scheduled to make its closest approach on July 9.

The Voyager project is managed by the Jet Propulsion Laboratory, a government-owned facility in Pasadena, Calif., operated for NASA by the California Institute of Technology.

Employee Bulletin Board

Employees' Awards

The Annual JSC Honor Awards Ceremony will take place Jan. 29 at 1:30 in Building 2 Auditorium. In addition to the awards to outstanding space center personnel, representatives of the Air Force, Navy, and Marine Corps will present military awards for five astronauts for their contribution to the ALT test program. JSC employees who can be spared from their duties are invited to attend the ceremony and reception.

Credit Union Opportunity

Members of the JSC Federal Credit Union who would like to be considered as candidates for positions on the Board of Directors or Credit Committee should submit a brief resume to Thomas Krenek at BZ, by Feb. 2. Include your account number and the position for which you want to run. Members will cast their ballots on March 9 at the Annual Meeting. If you are not selected as a candidate, your name can still be put on the ballot by submitting a petition signed by 100 members by Feb. 14. No nominations will be accepted from the floor at the meeting.

LPI Luncheon Seminar

A debriefing and discussion of the Second International Colloquium on Mars will take place at noon Tuesday Jan. 23 at the Lunar and Planetary Institute in the Hess Room.

Asimov Story at Burke Baker

A film, "The Last Question," based on the Isaac Asimov story, is currently showing at the Burke Baker Planetarium. The story involves the concept of entropy. Human intelligence asks a progressively more intelligent computer the question—Can entropy ever be reversed? At the end, the computer gives a thrilling answer. "The Last Question" plays at 7 p.m. Wednesdays and Fridays and at 2, 3, and 4 Saturdays and Sundays. Evening shows are at 8 on Friday and Saturdays.

A Trip to China for credit

The American Institute for Foreign Study at UHCLC is sponsoring a trip to the People's Republic of China July 2 through 28. A meeting for all persons interested will be held Sunday, Jan. 28 at 2:30 in Room 2532 of the Bayou Building. Travelers will earn 6 graduate or undergraduate credits. For more information call Dr. Karp at 488-9410, or Doris Wood at 483-2161.

EAA Announcements

Watch for more news on the Country and Western Dance, coming up on March 3.

The EAA Picnic will be May 5 at Manson Park.

At the JSC Exchange Store

- Dean Goss tickets - \$10.00 single. \$20.00 couple (Reg. \$14.50 each)
- General Cinema tickets - \$2.40 each
- ABC Theatre tickets - \$2.00 each.
- Magic Kingdom Cards - Free
- Entertainment '79 Coupon Book - \$15.00 each. This coupon book contains 376 two for one coupon offers totaling more than \$4,000 in savings for one full year. For additional information, please contact Bea Brown at extension 4814.

JSC Photo Club to meet

Allen DuPont and Stewart McAdoo will give a demonstration on the process of developing color prints from negatives using the Kodak two-chemical process Feb. 1, at the JSC Photo Club meeting at Gilruth Center at 7:30 p.m. The demo will include the actual printing and developing process. For more information, call Alfred A. Menchaca at ext. 3278.

JSC Golfers Recruiting

The JSC Golf Association is starting its membership drive for 1979. All JSC employees and badged contractors are eligible to join. The tentative schedule is to start the season with a fun tournament at Memorial Golf Course Monday, Feb. 19 (that's a holiday). There will be two more fun tournaments and a 2-day, 36-hole championship tournament. Competition in the JSCGA is handicapped from 0 to 40, and winners are determined by points won in the best 5 of 8 medal play tournaments. Cost for membership is \$27.50 which is returned as prize certificates in each tournament. Call Lonnie Cunieff, ext. 2051, for a membership application or more info. Deadline is Feb. 9.

Basketball at Gilruth

This season there will be two men's leagues and a women's league. Games will take place Tuesday, Wednesday, and Thursday nights. There is plenty of room for spectators, and the games are always fun and exciting. Come on out and root your favorite team on to victory.

Wanted: Basketball Officials

The Gilruth Center needs qualified basketball officials for the 10-week 1979 season. If interested call the Gilruth Center. Pay is \$8 a game, with officials usually working two games a night. And you get exercise. Call 483-3594.

Where's the Court?

Tennis Courts are closed temporarily for resurfacing.

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Photographer: A. "Pat" Patnesky

Gilruth Center Sports Calendar

LEAGUE SPORTS

Men's & Women's Basketball - 10 wk. Season - EAA \$65.00, Non EAA \$130.00
Sign-up Dec. 11 - Dec. 27, 1978
Season Jan. 8 - March 16
Playoffs March 19 - March 22

Men's, Women's Mixed Softball - 10 wk. Season - EAA \$50.00, Non EAA \$100.00
Sign-up March 5-14
Season March 26 - June 1
Playoffs & Rain make-up, June 4-15

Mixed Volleyball - 10 wk. Season - Free (No Officials)
Fun, Family Oriented League. Almost anything goes...
Sign-up March 5 - 14
Season March 26 - June 1

Men's, Women's Mixed Softball - 10 wk. Season - EAA \$50.00, Non EAA \$100.00
Sign-up May 28 - June 6
Season June 16 - Aug. 31
Playoffs & Rain Make-up, Sept. 3-15

Mixed Volleyball - 10 wk. Season - EAA \$45.00, Non EAA \$85.00
Sign-up May 28 - June 6
Season June 16 - Aug. 31
Playoffs, Sept. 3-7

Men's Volleyball - 7 wk. Season - EAA —\$35.00,

Non EAA \$70.00
Sign-up Aug. 13-22
Season Sept. 3 - Oct. 19
Playoffs, Oct. 22-26

Women's Volleyball - 7 wk. Season - EAA \$35.00, Non EAA \$70.00
Sign-up Aug. 13-22
Season Sept. 3 - Oct. 19
Playoffs Oct. 22-26

Women's Volleyball - 7 wk. Season - Monday nights - EAA \$35.00, Non EAA \$70.00
Sign-up Oct. 8-17
Season Oct. 29 - Dec. 14
Playoffs Dec. 17-21

Men's Basketball - 7 wk. Season - Tu., Wed., Thurs. nights - EAA \$50.00, Non EAA \$100.00
Sign-up Oct. 8-17
Season Oct. 29 - Dec. 14
Playoffs Dec. 17-21

1980
Men's & Women's Basketball - 10 wk. Season
Sign-up Dec. 10-26
Season Jan. 9 - March 15
Playoffs March 18-21

RUNNING EVENTS:

Intercenter Competition, Dates Announced Later.

BARC/JSC RACES:

Jan. 27
Feb. 24
May 5
Nov. 24
Dec. 29

SOFTBALL TOURNAMENTS:

FBA (Federal Business Administration), Civil Service Teams Only.
NASA Teams \$30.00 Other Teams \$50.00 (Men's & Women's)
Sign-up June 11-18
Tournament June 23-24
Rain Make-up June 30 - July 1

HGAIRC (Houston-Galveston Area Industrial Recreation Council)
Civil Service Teams \$25.00 Other Teams \$40.00 (Men's & Women's)
Sign-up July 2-9
Tournament July 13-15
Rain Make-up July 20-22

1st ANNUAL SPORTS AWARDS BANQUET: For Sporting Events in '79'

Sign-up Jan. 2-9, 1980
Banquet Jan. 12, 1980
Cost \$4.00 Per Person

PUT YOUR BRAND



ON A COST REDUCTION REPORT, JSC FORM 1150 AND SEND IT TO:
BG-3 COST REDUCTION OFFICE

What's cookin' in the JSC cafeteria

Week of January 29 - February 2

MONDAY: French Onion Soup; BBQ Sliced Beef; Parmesan Steak; Spare Rib w/kraut; Chili & Macaroni (Special); Ranch Style Beans; English Peas; Mustard Greens. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

TUESDAY: Split Pea Soup; Meatballs & Spaghetti; Liver & Onions; Baked Ham w/sauce; Corned Beef Hash (Special); Buttered Cabbage; Cream Style Corn; Whipped Potatoes.

WEDNESDAY: Cream of Tomato Soup; Cheese Enchiladas; Pork Steak w/dressing; Oven Crisp Flounder; BBQ Link (Special); Pinto Beans; Spanish Rice; Turnip Greens.

THURSDAY: Beef & Barley Soup; Roast Beef w/dressing; Stuffed Flounder; Chopped Sirloin; Chicken Fried Steak (Special); Whipped Potatoes; Peas & Carrots; Buttered Squash.

FRIDAY: Seafood Gumbo; Fried Shrimp; Baked Fish; Beef Stroganoff; Fried Chicken (Special); Green Beans; Chopped Broccoli; Carrots.

Week of February 5 - 9

MONDAY: Cream of Potato Soup; Franks & Sauerkraut; Stuffed Pork Chop; Potato Baked Chicken; Meat Sauce & Spaghetti (Special); French Beans; Buttered Squash; Buttered Beans. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

TUESDAY: Navy Bean Soup; Beef Stew; Liver w/onions; Shrimp Creole; Smothered Steak w/dressing; Cabbage; Corn; Peas.

WEDNESDAY: Clam Chowder; Roast Beef; Baked Perch; Chicken Pan Pie; Salmon Croquette (Special); Mustard Greens; Italian Beans; Sliced Beets.

THURSDAY: Beef & Barley Soup; Beef Tacos; Pork Steak; Diced Ham w/lima beans; Stuffed Cabbage (Special); Ranch Style Beans; Brussels Sprouts; Lima Beans.

FRIDAY: Seafood Gumbo; Fried Shrimp; Deviled Crabs; Ham Steak; Salisbury Steak (Special); Carrots; Green Beans; June Peas.

Eclipse expedition

JSC astronomy buffs to view solar phenomenon from Canada

A number of space center employees will see stars in the mid-day sky next month when the JSC Astronomical Society takes an expedition to Canada to view a total solar eclipse Feb. 26.

They expect to see "flames of hydrogen shooting from the sun in slow motion, blood red flames in giant loops and extensions," as Paul Maley described it. He leads the group which includes Richard Rogan, Winston Blackmon, and John Erickson of the space center.

"Some are going for scientific measurements, some merely want to bring back good pictures," Maley said. He will be looking for unknown comets in the vicinity of the sun. It will be the last total solar eclipse visible from North America until the year 2017.

The key portion of the eclipse lasts under three minutes, so expedition members will run simulations the day before to practice operating equipment fast in

bulky winter clothes. The next morning, they will travel to Hecla Island in the middle of Lake Winnipeg. The weather will be sub-freezing and they expect 16 inches of snow.

Next year, Maley and the society are taking another expedition—to Kenya to observe an eclipse from Tsavo National Game Park. They will go to Siberia in the summer of 1981. Last year, he and 22 people went to South America to view an eclipse from the Andes.

The group leaves Feb. 24 and will be gone three days and two nights. Persons interested in this or other excursions should contact Maley at ext. 6333.

"Most of the people who go are amateur astronomers," he said, "and people who just want to see the phenomenon." He adds that the eclipse will only be partial from Houston and should not be viewed with the naked eye.

Upward mobility

From secretary to administrator with hard work

In 1966, Dawn Hoyle went to work in Personnel as a temporary clerk-typist. She moved up the secretarial ladder, but even being Division Secretary did not satisfy her ambitions. So she went back to school, seeing "the need for a degree as an avenue to professional level positions."

She earned an AA from San Jacinto College, a BS in Behavioral Science from UHCLC, then enrolled in the Graduate Assistantship Program through the JSC training office. Under this program, she completes her Master's in Public Administration in one year while working rotating administrative assignments at the space center. She completes the program this summer.

"It's a good feeling," she said. "You know that the hard work does have a reward at the end and that makes it all worthwhile."

Dawn is no ordinary student. She completed her first semester of graduate school with a 3.8 grade point average. She has been nominated for UHCLC's Presidential Management Intern program, an honor that goes to one student a year. She plans to co-author a book on the history of Public Administration with her professor Jay Shafritz. "This whole learning and growing experience is challenging and fascinating," she said. "I love it."

As an undergraduate, Hoyle took six to twelve hours of evening classes a



Dawn Hoyle

semester. But to accept the part-time training position she had to leave her full-time secretarial job. "It was a little unsettling to take a risk and not know where it will take you," she said. "Going from full to half salary wasn't easy, but if you want something badly enough you just work around the obstacles."

Dawn was dissatisfied, and she did something about it. She is a model for anyone who feels stuck in his job. And she's appreciative. "Harv Hartman and Jack Lister were both key people in backing my educational efforts," she said. "They saw me through the hardest times and urged me to hang in there."

Amplification...

In the last *Roundup*, we ran a story about the five Spacelab payload specialists who will be on site March 5 - 16. They are:

- Michael L. Lampton, University of California at Berkeley
- Byron K. Lichtenberg, Massachusetts Institute of Technology
- Ulf Merbold, German, Max Planck Institute, Stuttgart

- Claude Nicollier, Swiss, European Space Technology Center
- Wubbo Ockels, Dutch, Gronigan University, Netherlands

They are doing physiological training at the space center Thursday and Friday, Jan. 25 and 26, in preparation for flying in the KC-135 zero-g aircraft when they return.

Roundup Swap Shop

Swap Shop advertising is open to JSC federal and on-site contractor employees. Goods or services must be offered as advertised, without regard to race, religion, sex or national origin. Noncommercial personal ads should be about 20 words and include home phone number. Typed or printed ad copy must be received by AP3/Roundup by Wednesday of the week prior to publication.

Cycles

Bicycle, girl's 26-inch 3-speed, hand and coaster brakes, good cond., \$20. 333-2509
'71 Honda SL350, 13,000 mi., orig. adult owner, exc. cond., \$350. 331-0457

Miscellaneous

Shortwave radio, Hallicrafters model S-108, exc. cond., \$75. Crawford 485-1609
Gas pool heater, 345,000 BTU/hr, best offer. Lenoir 334-2627
Work-Mate, new, \$50. 482-1635
CB antenna for base station, half-wave w/3.75 db gain, exc range, set of 12-inch wall mount brackets included, \$25. Wayne 488-4158

Beautiful winter coat, camel color, fur on hood and sleeves, hardly worn, bought Feb. 1978 for \$155, asking \$90. Anne 334-1173 after 5

Pecans, \$1.25 per pound. Friendswood. McNeely 482-1549

Sears Riding Mower, 7 HP, 26" cut, 3-speed, 3 yrs. old, \$225. 33-0457

Four 600 x 15 Gulf Crown w/w tires, less than 1000 miles; plus one 600 x 15 b/w, less than 500 miles; all on 68 or newer V.W. wheels, \$85; exchange or \$20 each, you mount. 334-1303 after 5 pm

Household Articles

Clock-radio by Magnavox, AM/FM, Walnut cabinet, exc. cond., \$20. 333-2509
Magic Chef microwave oven w/stand, \$150; 10-speed bicycle, \$20; Strollee baby car seat, \$25. Cindy x7236

Large Upright Freezer, 1 yr. old, \$300. Lucie 641-7502

Coldspot refrigerator, 14 cu. ft., frost free, good cond., \$75. Joy 473-3791 after 5

Used Kenmore Washing machine, good cond., \$35. Birdie 944-0403 after 4

Bassett early American bed and dresser w/mirror, \$200. 332-4882 after 5

4 Wrought-iron bar stools, black cushioned seat, wood back, \$30; circulating air fireplace grate, \$10; VW bus curtains, hardware, \$10. 488-1351 after 5 pm

Dining Room Table, Fruitwood, 2 leaves, seats 10 comfortably, \$75. Norris Taylor 944-5818

Cars & Trucks

'69 Chevy Biscayne, needs clutch job, battery, and tune-up, \$145 or best offer. McHenry 337-3261

'66 Rambler American, needs brake line, battery, and tune-up, \$45 or best offer. McHenry 337-3261

'70 Hornet, exc. running cond., good tires, great little work car, \$295. Barr 485-6074

'71 Ford Station Wagon Country Sedan, radio, auto., A/C, PS/PB, radial tires, one owner, good cond., new valve job, battery, starter, \$695. 482-1821

'71 Camero, Rally Spt., 350, P/S, A/C, Spt. Susp., good cond., 74D miles. \$1600. J. Deatkins 488-3866

'74 Ford Maverick, auto, A/C, power steering, good cond., \$1595. Joy 473-3791 after 5

'72 Duster, auto., P/S, economical slant '6', AM/FM cassette stereo, good cond. Larry 487-4325

'76 Itasca Mini Motor home, 25 ft., all extras, only 10,000 miles, Chevy Chassis, Serious Inquiries Only, \$16,500 firm. 334-1303 after 5

'77 Chevy Van, black, off-road suspension, fully equipped, 22,000 miles, A-1 Shape, asking \$6195. 485-5209

'74 Concord Motorhome, 28', Dodge 440, 2 roofair, heatstrip, 5KV Onan Generator, exc. cond., \$12,995, high. 472-3741 or 472-5638

'74 Pinto Runabout, 2300 cc, VG cond., auto, air, (2 yr. warranty), 55,000 miles, new brakes, HD shocks, timing belt, forever bait, steel radials. 481-4008 after 7 pm

'67 Olds., F-85, AM/FM stereo tape, P/S, PB, auto., good cond. 332-3185 after 4 & weekends

'68 Oldsmobile cutlass supreme, good mechanical cond., \$695. 488-4005 after 6 pm

Pets

Cocker spaniel/terrier puppy (female) free to good home. Cindy x7236

Standard Poodle puppies, lovable, intelligent, exc. watch dogs, 4 females, 2 males, all black, \$50. Burdsal 482-2873

Wanted

Rider to join carpool leaving Meyerland at 7:20 a.m. for the 8 a.m. to 4 p.m. shift. Contact Russ x4817, Carl x4817, or Cathey x6387

Youth Skis, 120 or 130 cm w/bindings; 1 pair ski boots, size 2 or 2-1/2 (man's); 1 pair ski boots, size 5 or 5-1/2 (ladies). Overmyer 333-2808

Good used creosoted posts, pilings, railroad ties, suitable for building cattle chutes and corral. Jim Bater 334-5949 after 5

Property & Rentals

For Lease: home, brand new 3-2-2 all brick atrium-type. 488-6412

For Sale: Heritage Park, Webster, 4-2-2, must see to believe, beautifully landscaped, behind Baybrook Mall, mid 50's. 332-2279

Stereos & Cameras

Stereo, Pioneer SX-737 receiver, Dual 1225 turntable, Harman-Kardon HK-40 speakers, Panasonic cassette deck, \$375. 332-4882 after 5

Musical Instruments

Alvarez guitar w/barcus-berry pickup, exc. cond., new strings, guitar stand, \$250. 474-4765

Boats & Planes

Sailboat, Clipper MK-21, Fiberglass, 21-ft. w/trailer, sails & outboard engine, \$3500 firm. G. Osborn x4231 or 474-3941

16' Sailboat w/trailer, good cond., 95 sq. ft. of sail, \$375. Larry 487-4325

Lost and Found

Hewlett-Packard 25 charger near Bldg. 45. If found contact John C. Fischer, Jr./ND7 x5931



Candidate astronauts ready to get out of classroom, into assignments

In February, the first phase of candidate training winds down to an end, as the future astronauts get out of the classroom and take on full responsibility for assignments.

The 35, many straight from college after completing Ph.D's, spent 20 hours a week the past six months learning the basics of the Shuttle program and how to get things done at NASA.

"They've been more like briefings than classes," said Tom Kaiser, who co-ordinates the training. "This is the first time we've had this through a training program."

It started on July 21 with a talk on Spacecraft Design delivered by Max Faget. There were 12 courses on Introduction to the Shuttle alone. "FLT OV 1101 Flight Overview" went over possible phases of a Shuttle flight; "GND DLS 1102 Ground Data Links Familiarization" covered terms to be used in command and control of flights. The candidates sat through FLT PLNG 1101 and EVA OV 1101.

"In OM this morning, I was counting the years I've been in class like this," said Steve Hawley, astronomer and mission specialist candidate.

"There are no real tests, but you recognize you're going to need this information," added geologist Kathy Sullivan.

Trainers say they are putting together a videotape library of the classes for use by all NASA employees.

Now that the candidates are getting out of the classroom, their training takes on a new emphasis. "They're being put straight to work like the rest of us," said astronaut Ed Gibson, who co-ordinates the candidates' technical assignments.

"The first three months, they were in more of an observer mode," he said. "In February, they'll be assuming responsibility the same as anybody else in the office."

Hawley has been working on soft-



IN TRAINING—At top, candidate Mike Coats prepares for high performance jet flights at Ellington. At right, Ellison Onizuka learns parachute landing techniques at Vance. Time in class is only half the candidate training program.



ware for payloads on OFT flights, an assignment that "evolved into how to support operational payloads." Sullivan has been working on the OSTA pallet for Earth sciences, which evolved into a similar assignment for STS 2.

Pilot Fred Gregory is working on Orbiter enhancement, trying to find an ideal cockpit. George Nelson, an astronomer, is working procedures for getting in and out of a spacesuit.

They all get animated when they talk about the training. "The scientific courses have been fascinating," said Gregory.

"There's an overwhelming amount

of information, and it's important someone learns every facet," said Nelson.

"The best way to learn how to do it is to go out and do it," said Hawley.

"Using the word 'happy' is leaving it understated," said Sullivan.

They apply abundant energy to keeping up with a "hectic" schedule—flying in the T-38, working one-on-one with veteran astronauts, keeping current in their fields, and working out. Now and then, they find an hour for recreation. "Class ended

Applications Keep on coming in

"I have a tremendous interest in what's out there. And how are we going to get out there? I hope I qualify. I just plain want to go for the fun of it..."

"I'm a frantic space nut, and now that it's easier to go into space, I am anxious, too..."

"I'm writing this letter in query of the Shuttle program. I will give some of my qualifications to perhaps save you some time in analysis..."

"I will, if chosen, become the Apollo Eagle Volunteer. I will obey all direct commands from Mission Control..."

The JSC Personnel Office receives 30 to 50 letters a week from persons who want to be astronauts, and at this time NASA is not even recruiting.

In the meantime, Personnel Clerks keep filing the letters. There are now eight file drawers full.

"I am only 15, but am planning on a career in Space/Aeronautics..."

"I am 25 years old, and presently unemployed..."

"I am female, single, and currently employed as a policewoman..."

"I have been a Star Trek fan for many years and would be honored to be a crewmember..."

early today so we went to play a game of racketball," Gregory said.

They held their first annual "Who Me?" party Jan. 16, celebrating the first anniversary of the candidate announcement.

The 35 candidates have become tight friends. You may see them in the cafeteria inhaling seafood gumbo, or hustling out of the parking lot on their way to flight training at Ellington. They all seem to feel the courses in "How to Get Things Done at NASA," have been most beneficial, and in the next year that is what they will be doing.

Countdown *from Page 1*

At the consoles, an instructor, Hiram Baxter puts in an APU (Auxiliary Power Unit) malfunction, and emergency lights come on in the cockpit announcing "APU Underspeed." The hydraulic pressure lights go on.

The pilot throws the correct switches and the emergency is over.

"These malfunctions will get more difficult in the next few weeks." Hughes says.

The system clears and they are ready to launch again.

Budget *from Page 1*

starts in space science or applications.

Most notable in the budget is a 20 percent increase in space applications, which Frosch stated would allow NASA to continue major projects such as the space telescope, Jupiter Orbiter Probe, HEAO satellites, and Spacelab.

He did, however, say that he didn't expect the 1980 budget to "go down in history as my favorite but it is within the President's anti-inflation guidelines."

Think Tank wizards winners

We received 34 solutions to Think Tank Puzzle No. 2, and all but two were correct. **David Peterson** CG6 is our winner. His illustration, shown here, came with the notation to slide the striped piece down one foot and two feet over to the left.

Our Puzzle Editor, whose identity must be kept secret for obvious reasons, lists these contestants as deserving of honorable mention: **Lee Norbraten, David Whittle, G. A. Fiedler, Hubert Brasseur, and Bill Stagg.**

Look for Puzzle No. 3 in the next Roundup

